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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,197	09/21/2005	Young-Tack Sul	P57672	7327

7590 11/26/2007  
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EXAMINER
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WERNER, JONATHAN S

ART UNIT	PAPER NUMBER
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3732

MAIL DATE	DELIVERY MODE
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11/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/550,197

Applicant(s)

SUL, YOUNG-TAEK

Examiner

Jonathan Werner

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3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-11, 13-17 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-11, 13-17 and 19-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is in response to Applicant's amendment received 10/10/07.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/07 has been entered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 19-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 19, Applicant has added limitations directed to a screw thread that comprises crests and roots. Such limitations were not previously described in the originally filed disclosure. For the purpose of examination,

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as best understood by Examiner, the aforementioned "crests" will be interpreted as the free distal end of each thread, whereas the "roots" will be interpreted as the proximal base portions of each thread that are attached to the implant body. In claim 22, Applicant has added limitations directed to a ridge formed on the flanks of the screw thread. For the purpose of examination, Examiner will interpret the claimed "at least one ridge formed on the flanks of the screw thread," to represent at least one micro-pattern.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 19-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In light of the rejection of 35 U.S.C. 112, first paragraph, as detailed above, for the purpose of examination, as best understood by Examiner, the aforementioned "crests" will be interpreted as the free distal end of each thread, whereas the "roots" will be interpreted as the proximal base portions of each thread that are attached to the implant body. In regard to claim 22, Examiner will interpret the claimed "at least one ridge formed on the flanks of the screw thread," to represent at least one micro-pattern.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 7-9, 13-15, 19-20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Cuilleron (FR 2610512 A). Cuilleron discloses a cylindrical implant (i.e. Figure 5) with helical threads (i.e. 2b), said threads bearing a continuum of micro-patterns (i.e. 2c) that increase the exposed surface area of each thread (see Figure 7). Cuilleron also shows that implant threads can include inclined flanks have a continuum of micro-patterns thereon as shown clearly in Figure 4, said micro-patterns as shown having a polygonal cross-section. Examiner notes that the threads (i.e. 1c) shown in Figure 4 comprise a series of recesses and protrusions incised thereon which form the aforementioned micro-patterns (i.e. triangular shaped patterns 1f, also representative of ridges). Furthermore, Examiner points out that Figure 4 also shows that each screw thread comprises crests (i.e. the free distal end of each thread) and roots (i.e. proximal base portion of each thread). The flanks (i.e. inclined sides of each thread) connect the crests with the roots. Lastly, because the polygonal cross-section of the micro-patterns can be triangular, Figure 4 demonstrates how their polygonal outline can appear open at one side (i.e. between crests of adjacent triangles) when viewed on a cross-sectional plane.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-11, 16-17, 21 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuilleron in view of Hansson et al. (US 5,588,838). Cuilleron discloses the implant as described in detail above, including that the micro-patterns located on the threadings can have a profile other than a triangular profile (i.e. see attached EPO automated translation, page 3, lines 1-3). Cuilleron, however, does not explicitly disclose that said micro-patterns can be arcuate in shape. Hansson teaches an implant that utilizes micro-threads that have an arcuate design (column 2, lines 34-37). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to use arcuate shaped micro-patterns in the threads of Cuilleron in order to avoid, or at least minimize, stress-concentrations in the bone tissue around said microthreads as taught by Hansson. Additionally, although Cuilleron fails to disclose a specific distance between each micro-pattern, Hansson teaches that the distance between adjacent threads should be approximately 0.2 mm (200  $\mu$ m). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to separate each micro-pattern by 150  $\mu$ m since it has been held that where the general conditions of a claim are disclosed in the prior art,

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discovering the optimum or workable values involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Response to Arguments***

7. Applicant has alleged that an extremely reputable source has translated the priority document KR 10-2003-0018745 to ascertain the English language equivalent of claim 5, which claims "The helical implant of claim 2 or 4, wherein the recesses have a cross sectional length of 150  $\mu\text{m}$ ." Examiner has additionally translated said priority document using the Korean Patent Information Online Network to confirm that the cross sectional dimension of claim 5 is indeed the length of the recess. Applicant's amendments changing all instances of "area" to "length" in the present application are sufficient. Additionally, Applicant has affirmed Examiner's interpretation of the "flanks" as meaning the "thread inclines." In light of these findings, Examiner herein withdraws the previous rejections of claims 7-18 under 35 U.S.C. 112. However, new rejections of newly submitted claims 19-24 have been made under 35 U.S.C. 112.

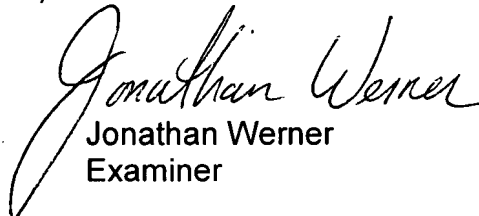
8. Applicant's arguments with respect to the rejection of claims under the cited prior art have been considered but are moot in view of the new ground(s) of rejection described in detail above. Lastly, Examiner notes that a decision on Applicant's petition submitted 5/14/07 remains pending.

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Werner whose telephone number is (571) 272-2767. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jonathan Werner  
Examiner

11/6/07

  
MELBA N. BUMGARNER  
PRIMARY EXAMINER